

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): A nozzle for atomising a liquid by means of a gas,
comprising:

a mixing chamber (1) extending between an upstream end and a downstream end, at least one liquid inlet (6c) and at least one tangential gas inlet (5) to said mixing chamber, and an outlet (4) positioned at the downstream end of said mixing chamber (1),

wherein a centre body (2) having a generally converging configuration, seen in the flow direction, is provided in the mixing chamber (1), said centre body being rotationally symmetrical in the mixing chamber and extending from an upstream end to the outlet or out through the outlet, and that

wherein said at least one liquid inlet (6c) is positioned at or near the upstream end (3a) of said mixing chamber (1) and in the upstream direction with respect to said at least one gas inlet (5).

Claim 2 (original): A nozzle as claimed in claim 1, wherein the centre body (2) comprises a cylindrical base portion (2a) and a converging portion (2b).

Claim 3 (previously presented): A nozzle according to claim 1, wherein the downstream end of said centre body (2) is positioned outside the outlet (4) of the nozzle.

Claim 4 (previously presented): A nozzle according to claim 1, wherein the mixing chamber (1) comprises a cylindrical portion and a converging portion, said at least one gas inlet (5) being provided in the cylindrical portion.

Claim 5 (previously presented): A nozzle according to claim 1, wherein said mixing chamber (1) is provided in a chamber part (9).

Claim 6 (previously presented): A nozzle according to claim 1, wherein the centre body (2) forms an integral part of an insert (10).

Claim 7 (original): A nozzle according to claim 6, wherein the insert (10) comprises a disk portion (23) positioned at the upstream end of the centre body (2), said disk portion (23) forming at its downstream face (3) the upstream end of said mixing chamber (1).

Claim 8 (previously presented): A nozzle according to claim 6, wherein said insert (10) at its upstream end is connected with a bottom part (7), which in turn is connected with a cap part (8), said chamber part (9) being positioned within said cap part (8) and in connection with said insert (10).

Claim 9 (previously presented): A nozzle according to claim 1, wherein one gas inlet (5) is provided tangentially with respect to the inner circumference of the mixing chamber (1).

Claim 10 (previously presented): A nozzle according to claim 1, wherein said centre body (2) is adjustable in the axial direction.

Claim 11 (withdrawn): A method of atomising a liquid by means of a gas in a nozzle according to claim 1, wherein the area of the gap defined between the inner periphery of the outlet (4) and the centre body (2) is designed and a gas pressure chosen so that two sonic jumps takes place during operation, a first jump taking place when the gas enters the mixing chamber (1), and a second jump when the gas-liquid mixture leaves through the outlet gap (4).

Claim 12 (withdrawn): A method according to claim 11, wherein said method is for spray drying, spray cooling, agglomeration or spray coating.

Claim 13 (new): A nozzle for atomising a liquid by means of a gas, comprising:
a mixing chamber (1) extending between an upstream end and a downstream end, at least one liquid inlet (6c) and at least one tangential gas inlet (5) to said mixing chamber, and an outlet (4) positioned at the downstream end of said mixing chamber (1),

wherein a centre body (2) having a generally converging configuration, seen in the flow direction, is provided in the mixing chamber (1),

wherein said at least one liquid inlet (6c) is positioned at or near the upstream end (3a) of said mixing chamber (1) and in the upstream direction with respect to said at least one gas inlet (5), and

wherein the insert (10) comprises a disk portion (23) positioned at the upstream end of the centre body (2), said disk portion (23) forming at its downstream face (3) the upstream end of said mixing chamber (1).

Claim 14 (new): The nozzle according to claim 13, wherein said insert (10) at its upstream end is connected with a bottom part (7), which in turn is connected with a cap part (8), said chamber part (9) being positioned within said cap part (8) and in connection with said insert (10).

Claim 15 (new): The nozzle according to claim 1, wherein said at least one liquid inlet is at the periphery of the nozzle.